Modified cylindrical dielectric resonators excited with loaded fork monopole antenna

Abstract:

A novel hybrid dielectric resonator antenna (DRA) excited by a printed monopole antenna is proposed and implemented. This new microstrip-fed fork-like stepped monopole antenna is designed to obtain a wide impedance bandwidth from 2 to 6 GHz. A quad-band characteristic is achieved by incorporating two modified cylindrical dielectric resonators with a high dielectric constant of 80, on top of the monopole exciter. Measured results demonstrated that the proposed DRA can be used in multiband wireless operations, covering GSM, PCS, UMTS, WLAN, and WiMax systems, from 1.75 to 5.85 GHz. Experimental and simulation results show a good agreement.